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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Are the tank battery location names correctly associated with their common tank vapor capture system #s? [Yes or No]	If incorrect, provide correct identification and explain. [Add or delete rows as necessary to include all associated tanks with common tank vapor capture systems]	Did Noble conduct a design analysis of the tank vapor capture system & control device <u>prior to its construction</u> ? [Yes or No]	If yes, what was the date the analysis was conducted? [Date]	If yes, please state whether the design analysis was performed to ensure that the tank vapor capture system and control device were adequately designed and sized to handle reasonably foreseeable fluctuations in emissions and minimize emissions to the atmosphere to the maximum extent practicable. If not, why not?	Supply all documents supporting the design analysis of each tank vapor capture system and control device [list the filenames if provided electronically or an Attachment name identifier if hard copy]	Did Noble conduct a design analysis of the tank vapor capture system & control device <u>since its construction</u> ? [Yes or No]	If yes, what was the date the analysis was conducted? [Date]				
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4	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	If yes, please state whether the design analysis was performed to ensure that the tank vapor capture system and control device were adequately designed and sized to handle reasonably foreseeable fluctuations in emissions and minimize emissions to the atmosphere to the maximum extent practicable. If not, why not	Supply all documents supporting the design analysis of each tank vapor capture system and control device [list the filenames if provided electronically or an Attachment name identifier if hard copy]	For tank vapor capture systems analyses not already provided in Questions 2 & 3, conduct an analysis and supply all input parameters, calculations and supporting documents of the design analysis of each tank vapor capture system and control device. [list the filenames if provided electronically or an Attachment name identifier if hard copy]	Quantify the peak total emission flow due to flash emissions attributed with liquid dump events from the pressurized vessel upstream of the condensate storage tanks, along with w/b/s emissions. [cubic feet/sec]	What is the flow capacity of the existing tank vapor capture system(s) and control device(s)? [cubic feet/sec]	Piping & instrumentation diagram of the process (wellhead(s) to control device). [list the filenames if provided electronically or an Attachment name identifier if hard copy]	If more than one condensate storage tank is present within a tank vapor capture system, describe how condensate flows between condensate storage tanks.	Identify the gas gathering pipeline into which the tank battery location enters. [Name of P/L(s)]
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	What is the maximum allowable operating pressure of that pipeline? [psig]	Provide a list of the wells which flow to the initial separator(s). [Well name and API No.]	How is production from those wells set to flow to the initial separator(s) (e.g. based on time, pressure, other parameter(s), or a combination of these)?	Can more than one well flow to an initial separator concurrent with another well or wells?	Provide a description, name and tag # ID of the initial separator(s) (e.g. single stage, dual stage, dual coil, HLP, VGR, etc.).	1st Stage - Maximum operating pressure and temperature. [psig and °F]	2nd Stage - Maximum operating pressure and temperature. [psig and °F, if applicable]	2nd Stage - describe where flash emissions from this stage is routed. [if applicable]	
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4	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Maximum condensate volume of the separation vessel immediately upstream of the condensate storage tank. [barrels]	Average daily Oil Production from Noble's COGIS 2008-2013 Data. [bbl/day]	Dumping frequency based on average daily oil production. [dumping events/day]	Duration of a dumping event. [minutes]	Instantaneous flow rate. [gallons/minute]	Flow coefficient of the dump valve. [gpm/psi ^{0.5}]	Pressure differential across the dump valve. [psi]	Specific Gravity of hydrocarbon liquid. [from the extended HC liquid analysis]	Instantaneous flow rate. [gallons/minute]	For each tank vapor capture system, provide the number of associated condensate storage tank(s) and their volume. [# and barrels]	Pressure relief settings (psi) on the thief hatch and pressure relief valve on the condensate storage tank(s) or tank vapor capture system. Note any changes in pressure relief settings that may have occurred and date when changed. [psi & Date]	Thief hatch gasket/seal information, including the type of gasket/seal used (e.g. rubber, Viton).
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Pipe length from the condensate storage tank(s) to the control device (if the vapor capture system collects vapor from multiple tanks, use the average pipe length for all the condensate storage tanks to the control device). [feet]	Inner pipe diameter of the tank vapor capture system from the condensate storage tank(s) to the control device. [inches]	Number of short radius elbows (short radius elbows have a radius equal to the pipe diameter). [#]	Number of long radius elbows (long radius elbows have a radius 1.5 times the pipe diameter). [#]	Number and type of valves (e.g. gate, check, globe, etc.). [# and Type]	Rated pressure loss across the combustor (enclosed flare) burner assembly as provided by the manufacturer of the combustion device. [psi]	Describe any low points in the tank vapor collection system piping where liquids could accumulate. Describe the frequency of draining these liquids. Describe the indicator, if any, that notifies the operator that liquids must be drained.	Set-point pressure and maximum flow capacity at that set-point of any backpressure valves installed on the vapor collection system. [ounces/in ² and scf/hr]	Provide a narrative description of the operations and maintenance program Noble employs to ensure emissions are minimized from the condensate tank(s), tank vapor capture system(s) / thief hatch(es) / pressure relief valve(s), and the frequency of such. [list the filenames if provided electronically or an Attachment name identifier if hard copy and scf/hr]
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2	CONFIDENTIAL BUSINESS INFORMATION															
3	QUESTION # >>>			5(l)(iii)	5(l)(iv)	5(l)(v)	5(l)(vi)	5(l)(vii)	5(l)(viii)	5(l)(ix)	5(l)(x)	5(l)(xi)				
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3	QUESTION # >>>				5(l)(iii)	5(l)(iv)	5(l)(v)	5(l)(vi)	5(l)(vii)	5(l)(viii)	5(l)(ix)	5(l)(x)	5(l)(xi)			
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3	QUESTION # >>>				5(m)	5(m)(i)	5(m)(ii)	5(m)(iii)	6(a)	6(b)	
4	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Identify the type of control device used (e.g. combustion device, VRU, etc.).	The combustor manufacturer specifications showing the maximum flow rate of tank vapors under which a control efficiency of at least 95% for volatile organic compounds can be achieved. [list the filenames if provided electronically or an Attachment name identifier if hard copy and scf/hr]	The combustor manufacturer recommended maintenance and service requirements. [list the filenames if provided electronically or an Attachment name identifier if hard copy]	Provide a narrative description of the servicing Noble performs on the combustor(s) and the frequency of such. [list the filenames if provided electronically or an Attachment name identifier if hard copy]	Filename of extended hydrocarbon liquid analysis of a pressurized oil sample from the pressurized vessel immediately upstream of the condensate storage tank(s). [filename]	API Gravity of "sales oil" in condensate storage tank.	Reid Vapor Pressure of "sales oil" in condensate storage tank. [psia]
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Are the tank battery location names correctly associated with their common tank vapor capture system #s?	If incorrect, provide correct identification and explain.	Did Noble conduct a design analysis of the tank vapor capture system & control device <u>prior to its construction</u> ?	If yes, what was the date the analysis was conducted?	If yes, please state whether the design analysis was performed to ensure that the tank vapor capture system and control device were adequately designed and sized to handle reasonably foreseeable fluctuations in emissions and minimize emissions to the atmosphere to the maximum extent practicable. If not, why not?	Supply all documents supporting the design analysis of each tank vapor capture system and control device	Did Noble conduct a design analysis of the tank vapor capture system & control device <u>since its construction</u> ?	If yes, what was the date the analysis was conducted?	If yes, please state whether the design analysis was performed to ensure that the tank vapor capture system and control device were adequately designed and sized to handle reasonably foreseeable fluctuations in emissions and minimize emissions to the atmosphere to the maximum extent practicable. If not, why not	Supply all documents supporting the design analysis of each tank vapor capture system and control device
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	For tank vapor capture systems analyses not already provided in Questions 2 & 3, conduct an analysis and supply all input parameters, calculations and supporting documents of the design analysis of each tank vapor capture system and control device.	Quantify the peak total emission flow due to flash emissions attributed with liquid dump events from the pressurized vessel upstream of the condensate storage tanks, along with w/b/s emissions.	What is the flow capacity of the existing tank vapor capture system(s) and control device(s)?	Piping & instrumentation diagram of the process (wellhead(s) to control device).	If more than one condensate storage tank is present within a tank vapor capture system, describe how condensate flows between condensate storage tanks.	Identify the gas gathering pipeline into which the tank battery location enters.	What is the maximum allowable operating pressure of that pipeline?	Provide a list of the wells which flow to the initial separator(s).	How is production from those wells set to flow to the initial separator(s) (e.g. based on time, pressure, other parameter(s), or a combination of these)?	Can more than one well flow to an initial separator concurrent with another well or wells?
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1	NOBLE ENERGY, INC.														
2	PersonsConsulted														
3	QUESTION # >>>			5(d)		5(d)(i)	5(d)(i)	5(d)(ii)	5(d)(iii)		5(e)	5(e)(i)	5(e)(ii)	5(f)	5(g)
	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Provide a description, name and tag # ID of the initial separator(s) (e.g. single stage, dual stage, dual coil, HLP, VGR, etc.).	1st Stage - Maximum operating pressure and temperature.	2nd Stage - Maximum operating pressure and temperature.	2nd Stage - describe where flash emissions from this stage is routed.	Does the final separator stage feature a device on the liquid outlet line to prevent a vortex from forming during a liquid dump event?	If yes, provide a narrative description.	Is there an intermediate separation vessel(s) between the initial separator and the condensate storage tank?	Intermediate separation vessel - Maximum operating pressure and temperature.	Describe where flash emissions from the intermediate separation vessel(s) are routed.	Condensate outlet pipe interior diameter from the separation vessel immediately upstream of the condensate storage tank.	Condensate outlet pipe orifice plate diameter from the separation vessel immediately upstream of the condensate storage tank.
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3	QUESTION # >>>		5(d)	5(d)(i)	5(d)(i)	5(d)(ii)	5(d)(iii)		5(e)	5(e)(i)	5(e)(ii)	5(f)	5(g)		
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2	PersonsConsulted																	
3	QUESTION # >>>			5(h)	5(i)	5(j)(i)	5(j)(ii)	5(j)(iii)(1) ... or 5(j)(iii)(2)			5(k)	5(l)(i)
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3	QUESTION # >>>		5(h)	5(i)	5(j)(i)	5(j)(ii)	5(j)(iii)(1) ... or 5(j)(iii)(2)				5(k)	5(l)(i)		
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2	PersonsConsulted															
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4	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Thief hatch gasket/seal information, including the type of gasket/seal used (e.g. rubber, Viton).	Pipe length from the condensate storage tank(s) to the control device (if the vapor capture system collects vapor from multiple tanks, use the average pipe length for all the condensate storage tanks to the control device).	Inner pipe diameter of the tank vapor capture system from the condensate storage tank(s) to the control device.	Number of short radius elbows (short radius elbows have a radius equal to the pipe diameter).	Number of long radius elbows (long radius elbows have a radius 1.5 times the pipe diameter).	Number and type of valves (e.g. gate, check, globe, etc.).	Rated pressure loss across the combustor (enclosed flare) burner assembly as provided by the manufacturer of the combustion device.	Describe any low points in the tank vapor collection system piping where liquids could accumulate. Describe the frequency of draining these liquids. Describe the indicator, if any, that notifies the operator that liquids must be drained.	Set-point pressure and maximum flow capacity at that set-point of any backpressure valves installed on the vapor collection system.	Provide a narrative description of the operations and maintenance program Noble employs to ensure emissions are minimized from the condensate tank(s), tank vapor capture system(s) / thief hatch(es) / pressure relief valve(s), and the frequency of such.	Identify the type of control device used (e.g. combustion device, VRU, etc.).	
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	The combustor manufacturer specifications showing the maximum flow rate of tank vapors under which a control efficiency of at least 95% for volatile organic compounds can be achieved.	The combustor manufacturer recommended maintenance and service requirements.	Provide a narrative description of the servicing Noble performs on the combustor(s) and the frequency of such.	Filename of extended hydrocarbon liquid analysis of a pressurized oil sample from the pressurized vessel immediately upstream of the condensate storage tank(s).	API Gravity of "sales oil" in condensate storage tank.	Reid Vapor Pressure of "sales oil" in condensate storage tank.
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Are the tank battery location names correctly associated with their common tank vapor capture system #s?	If incorrect, provide correct identification and explain.	Did Noble conduct a design analysis of the tank vapor capture system & control device <u>prior to its construction</u> ?	If yes, what was the date the analysis was conducted?	If yes, please state whether the design analysis was performed to ensure that the tank vapor capture system and control device were adequately designed and sized to handle reasonably foreseeable fluctuations in emissions and minimize emissions to the atmosphere to the maximum extent practicable. If not, why not?	Supply all documents supporting the design analysis of each tank vapor capture system and control device	Did Noble conduct a design analysis of the tank vapor capture system & control device <u>since its construction</u> ?	If yes, what was the date the analysis was conducted?	If yes, please state whether the design analysis was performed to ensure that the tank vapor capture system and control device were adequately designed and sized to handle reasonably foreseeable fluctuations in emissions and minimize emissions to the atmosphere to the maximum extent practicable. If not, why not?	
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Supply all documents supporting the design analysis of each tank vapor capture system and control device	For tank vapor capture systems analyses not already provided in Questions 2 & 3, conduct an analysis and supply all input parameters, calculations and supporting documents of the design analysis of each tank vapor capture system and control device.	Quantify the peak total emission flow due to flash emissions attributed with liquid dump events from the pressurized vessel upstream of the condensate storage tanks, along with w/b/s emissions.	What is the flow capacity of the existing tank vapor capture system(s) and control device(s)?	Piping & instrumentation diagram of the process (wellhead(s) to control device).	If more than one condensate storage tank is present within a tank vapor capture system, describe how condensate flows between condensate storage tanks.	Identify the gas gathering pipeline into which the tank battery location enters.	What is the maximum allowable operating pressure of that pipeline?	Provide a list of the wells which flow to the initial separator(s).
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	How is production from those wells set to flow to the initial separator(s) (e.g. based on time, pressure, other parameter(s), or a combination of these)?	Can more than one well flow to an initial separator concurrent with another well or wells?	Provide a description, name and tag # ID of the initial separator(s) (e.g. single stage, dual stage, dual coil, HLP, VGR, etc.).	1st Stage - Maximum operating pressure and temperature.	2nd Stage - Maximum operating pressure and temperature.	2nd Stage - describe where flash emissions from this stage is routed.	Does the final separator stage feature a device on the liquid outlet line to prevent a vortex from forming during a liquid dump event?	If yes, provide a narrative description.	Is there an intermediate separation vessel(s) between the initial separator and the condensate storage tank?	Intermediate separation vessel - Maximum operating pressure and temperature.
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Describe where flash emissions from the intermediate separation vessel(s) are routed.	Condensate outlet pipe interior diameter from the separation vessel immediately upstream of the condensate storage tank.	Condensate outlet pipe orifice plate diameter from the separation vessel immediately upstream of the condensate storage tank.	Describe whether the produced condensate is trucked or piped offsite from the condensate storage tank. If neither, provide an explanation.	Is the flow of condensate from the separation vessel immediately upstream of the condensate storage tank continuous or in intermittent batches?	If intermittent batches, what triggers a condensate liquid dumping event?	Maximum condensate volume of the separation vessel immediately upstream of the condensate storage tank.	Average daily Oil Production from Noble's COGIS Database.	Dumping frequency based on average daily oil production.	Duration of a dumping event.	Instantaneous flow rate.	Flow coefficient of the dump valve.
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	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Pressure differential across the dump valve.	Specific Gravity of hydrocarbon liquid.	Instantaneous flow rate.	For each tank vapor capture system, provide the number of associated condensate storage tank(s) and their volume.	Pressure relief settings (psi) on the thief hatch and pressure relief valve on the condensate storage tank(s) or tank vapor capture system. Note any changes in pressure relief settings that may have occurred and date when changed.	Thief hatch gasket/seal information, including the type of gasket/seal used (e.g. rubber, Viton).	Pipe length from the condensate storage tank(s) to the control device (if the vapor capture system collects vapor from multiple tanks, use the average pipe length for all the condensate storage tanks to the control device).	Inner pipe diameter of the tank vapor capture system from the condensate storage tank(s) to the control device.	Number of short radius elbows (short radius elbows have a radius equal to the pipe diameter).	Number of long radius elbows (long radius elbows have a radius 1.5 times the pipe diameter).	Number and type of valves (e.g. gate, check, globe, etc.).
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1	NOBLE ENERGY, INC. DocumentsConsulted											
2	CONFIDENTIAL BUSINESS INFORMATION											
3	QUESTION # >>>			5(l)(viii)		5(l)(ix)	5(l)(x)	5(l)(xi)	5(m)	5(m)(i)	5(m)(ii)	5(m)(iii)
4	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Rated pressure loss across the combustor (enclosed flare) burner assembly as provided by the manufacturer of the combustion device.	Describe any low points in the tank vapor collection system piping where liquids could accumulate. Describe the frequency of draining these liquids. Describe the indicator, if any, that notifies the operator that liquids must be drained.	Set-point pressure and maximum flow capacity at that set-point of any backpressure valves installed on the vapor collection system.	Provide a narrative description of the operations and maintenance program Noble employs to ensure emissions are minimized from the condensate tank(s), tank vapor capture system(s) / thief hatch(es) / pressure relief valve(s), and the frequency of such.	Identify the type of control device used (e.g. combustion device, VRU, etc.).	The combustor manufacturer specifications showing the maximum flow rate of tank vapors under which a control efficiency of at least 95% for volatile organic compounds can be achieved.	The combustor manufacturer recommended maintenance and service requirements.	Provide a narrative description of the servicing Noble performs on the combustor(s) and the frequency of such.
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1	NOBLE ENERGY, INC. DocumentsConsulted												
2	CONFIDENTIAL BUSINESS INFORMATION												
3	QUESTION # >>>			5(l)(viii)	5(l)(ix)		5(l)(x)	5(l)(xi)		5(m)	5(m)(i)	5(m)(ii)	5(m)(iii)
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1	NOBLE ENERGY, INC. DocumentsConsulted												
2	CONFIDENTIAL BUSINESS INFORMATION												
3	QUESTION # >>>		5(l)(viii)	5(l)(ix)		5(l)(x)		5(l)(xi)		5(m)	5(m)(i)	5(m)(ii)	5(m)(iii)
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1	NOBLE ENERGY, INC. DocumentsConsulted												
2	CONFIDENTIAL BUSINESS INFORMATION												
3	QUESTION # >>>			5(l)(viii)	5(l)(ix)		5(l)(x)	5(l)(xi)		5(m)	5(m)(i)	5(m)(ii)	5(m)(iii)
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1	NOBLE ENERGY, INC.				Documents	Consulted	
2	CONFIDENTIAL BUSINESS INFORMATION						
3	QUESTION # >>>					6(a)	
	Response Group #	EPA-Assigned Tank Vapor Capture System #	Tank Battery Location Name	APCD ID (AIRS AFS #)	Filename of extended hydrocarbon liquid analysis of a pressurized oil sample from the pressurized vessel immediately upstream of the condensate storage tank(s).	API Gravity of "sales oil" in condensate storage tank.	Reid Vapor Pressure of "sales oil" in condensate storage tank.
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1	NOBLE ENERGY, INC.			Documents	Consulted		
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1	NOBLE ENERGY, INC.			Documents	Consulted		
2	CONFIDENTIAL BUSINESS INFORMATION						
3	QUESTION # >>>				6(a)	6(b)	
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1	OIL PRODUCTION DATA															
2	THIS DATA FROM COGIS database http://cogcc.state.co.us/												Production End Date Used to calculate days>>> 5/31/2013			
3	Tank Vapor Capture System#	Tank Battery Location Name	AIRS #	Well Facility Name	API Well No.	Earliest 1st Production Date	Oil Prod. 2013 (through May)	Oil Prod. 2012	Oil Prod. 2011	Oil Prod. 2010	Oil Prod. 2009	Oil Prod. 2008	Total Tank Battery Production 2008-2013	Production Start Date Used (1/1/08 used if production start was prior to 2008)	Total Days Operating 2008-2013	Average Daily Oil Production by Tank Battery Location (bbl/day)
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